

# HYDRAULIC DESIGN ADVISORY

## HDA 05-01

DATE: MARCH 2, 2005

SUBJECT: Consideration of Floodplain Storage in the Design of Drainage Facilities

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It is stated in Chapter 8, section 8.3.2.8 of the VDOT DRAINAGE MANUAL that “It is VDOT practice to design culverts **without** recognizing or calculating the available upstream storage”. This statement reflects the fact that the Department does not permit the consideration of any upstream floodplain storage, with the resultant attenuation of peak discharges, in the design of any culverts, bridges, or other drainage structures for either its own facilities or those that would ultimately come under its jurisdiction. The Department will permit such consideration where it can be clearly shown that the drainage structure and roadway embankment in question and the upstream floodplain area have been designed to function as an impoundment for such facilities as ponds, lakes, detention/retention basins, etc. Another exception would be where approved FEMA delineated floodplain studies are in effect which indicate that the peak discharges have been reduced due to consideration of upstream flood storage. VDOT’s State Hydraulics Engineer must approve any exception to the above.